

stabilizer taught by Solanki is specifically selected to stabilize this type of lipophilic complex; see, e.g., col. 1, lines 65-68. See also, col. 3, lines 62-68, describing that the instability is a result of these particular new types of lipophilic complexes. The weak oxidizing agent is particularly sodium hypochloride but iodine is also mentioned as a possible weak oxidizing agent. Solanki makes no disclosure about the use of "iodide ions or a compound which releases or generates iodide ions" as the stabilizing agent. The disclosure at col. 7, line 31, to col. 8, line 50, regarding the use of sodium iodide does not disclose the use of sodium iodide to stabilize the complex. Contrary to the statement in the Office Action, sodium iodide is not added to the Tc-99m HMPAO complex but is only added to the Tc-99m pertechnetate eluate solution to overcome the age restriction on the eluate. Solanki does not teach the addition of sodium iodide or any other iodide salt to the complex as a stabilizer for the complex. The eluate does not contain the complexing agent.

Cyr teaches stabilizing a radiopharmaceutical by using a 6-hydroxycholesterol derivative as the stabilizer. Although Cyr discloses that the agent may be used to stabilize any radiopharmaceutical, there is particular emphasis on stabilizing radiopharmaceuticals having peptide-based targeting agents – all of the examples being directed thereto. See also col. 2, lines 18-20, indicating the particular need for stabilizers of radiopharmaceuticals containing peptide bonds. Further, the 6-hydroxycholesterol derivative used as a stabilizer in Cyr is an anti-oxidant compound; see, e.g., col. 2, lines 21-24.

Based on the above-discussed disclosures of Solanki and Cyr, it is strongly urged that one of ordinary skill in the art would not have had a reasonable expectation of success in using the stabilizing agents/methods of Solanki to stabilize a radiopharmaceutical such as depreotide disclosed in Cyr. Although both references are in the same general field regarding stabilizing of radiopharmaceuticals, they are each directed to stabilizing different types of radiopharmaceuticals using different means for doing so. Solanki discloses using an oxidizing agent to stabilize particular types of lipophilic radiopharmaceuticals, i.e., the propyleneamineoximes, mercaptoethyl triglycines, bisaminothiols, kethoxal bithiosemicarbazones, ethyl cysteinate dimers and boronic acid adducts recited at col. 1, lines 20-49. Cyr discloses using an anti-oxidant agent to stabilize radiopharmaceuticals with particular emphasis on those having peptide-based targeting agents. Based on these teachings, one of ordinary skill in the art would have no reasonable basis to expect that Solanki's oxidizing agent would stabilize the peptide-based radiopharmaceuticals, such as

depreotide. Solanki would have taught one of ordinary skill in the art that the oxidizing agents as stabilizers taught therein were designed specifically for stabilizing the types of radiopharmaceuticals disclosed at col. 1, lines 20-49, which do not include peptide-based radiopharmaceuticals. Cyr would have directed one of ordinary skill in the art even further away since it teaches to one of ordinary skill in the art that an anti-oxidant stabilizer is necessary to stabilize a peptide-based radiopharmaceutical. That Solanki uses an oxidizing agent while Cyr uses an anti-oxidant would clearly direct one of ordinary skill in the art away from using these agents interchangeably to stabilize the types of radiopharmaceuticals taught in the other reference, due to the opposite activity of these agents. On this basis, applicants urge that this is not a case where it would have been obvious to combine the compositions of Solanki and Cyr to form a third composition because they are used for the same purpose. The purposes of the Solanki and Cyr compositions are not the same. Solanki's purpose is to provide an oxidizing effect to stabilize certain types of radiopharmaceuticals and Cyr's purpose is to provide the opposite, anti-oxidant effect to stabilize other types of radiopharmaceuticals. Additionally, the issue is substituting one type of stabilizing agent for another type of stabilizing agent, not combining these agents.

For the above reasons alone, it is urged that there is not sufficient motivation to combine the reference teachings in the manner alleged to render the claimed invention obvious. Thus, at least for these reasons, the rejection under 35 U.S.C. §103 should be withdrawn.

Applicants also reiterate their previous argument that, even if combined, the reference teachings would not result in applicants' invention. Solanki and the combination of Solanki with Cyr is additionally distinct from applicants' invention in failing to disclose a composition or method containing "iodide ions or a compound which releases or generates iodide ions." Regarding claims 2 and 3, Solanki also fails to disclose use of an iodide salt or alkali metal iodide salt to stabilize a radiopharmaceutical containing a targeting agent, such as depreotide. As pointed out above, the disclosure at col. 7, line 31, to col. 8, line 50, of Solanki, regarding the use of sodium iodide, does not disclose the use of sodium iodide to stabilize the complexes. Contrary to the statement in the Office Action, sodium iodide is not added to the Tc-99m HMPAO complex but is only added to the Tc-99m pertechnetate eluate solution to overcome the age restriction on the eluate. The eluate is the radioactive entity before it is complexed with a complexing agent. Solanki does not teach the addition of

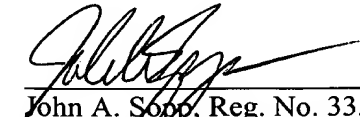
sodium iodide or any other iodide salt to the complex as a stabilizer for the complex. Further, the suggestion to use iodine as the oxidizing agent in Solanki is not equivalent to a disclosure of the use of iodide ions. The term "iodine" can be used to describe the element, I, but is clearly used in Solanki as describing the compound I<sub>2</sub>. Note the distinction between the compound iodine and iodide ions in the previously provided excerpt from Concise Encyclopedia Chemistry. Although iodide ions can be made from iodine under certain conditions. Such conditions are not those used in Solanki; nor does Solanki provide any disclosure or motivation to provide conditions under which iodine provides iodide ions in its compositions. The fact that Solanki separately discusses the use of iodide salts for use with the eluate makes clear that Solanki did not intend the term iodine to include iodide salts. Cyr teachings nothing remotely related to the use of iodide salts. Thus, even if Solanki and Cyr were properly combinable, neither of them disclose compositions containing iodide ions or a compound which releases or generates iodide ions. Nor does either reference disclose a method wherein iodide ions aid in stabilizing a radiopharmaceutical composition against degradation thus maintaining high radiochemical purity of the composition. Thus, the combination of the references would not meet or suggest the iodide component of the instant claims. The distinction is even more evident with regard to claims 2 and 3. These claims, at least, should be indicated to be allowable over the prior art.

For the above reasons, it is urged that one of ordinary skill in the art would not be motivated to combine the prior art in a manner which would suggest applicants' invention and, even if combined, the prior art would not result in or suggest applicants' invention to one of ordinary skill in the art. Thus, the rejection under 35 U.S.C. §103 is not supported by the cited prior art and should be withdrawn.

It is submitted that the application is in condition for allowance. But the Examiner is kindly invited to contact the undersigned to discuss any unresolved matters.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,

  
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